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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS: CROSS-SECTORAL ISSUES

Promoting sustainable human settlement development
(Section I, Chapter 6 of Agenda 21)

Report of the Secretary-General of the Conference

I. INTRODUCTION

1. At its third session, the Preparatory Committee considered the report of the Secretary-General of the Conference on human settlements (A/CONF.151/PC/43).

2. In decision 3/3, the Preparatory Committee, welcomed the report and decided that human settlements should be treated as a distinct programme of Agenda 21; that its programme areas should address human settlements as a substantive framework for sustainable development; that programme areas such as atmosphere, land, coastal areas, freshwater and waste management should include the human settlement dimension; and that the views expressed by Governments on the report be reflected in Agenda 21 (A/46/48, vol. II, annex I).

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* See A/CONF.151/PC/96.

3. Human settlement conditions in the developing world continue to deteriorate. This is attributable in part to the low levels of investment in the sector. In the low-income countries for which recent data are available, an average of only 5.6 per cent of central government expenditure went to housing, amenities, social security and welfare. 1/ Expenditure by international support and finance organizations is equally low. For example, only 1 per cent of the United Nations system's total grant-financed expenditures in 1988 went to human settlements 2/ while in 1991, loans from the World Bank and the International Development Association (IDA) for urban development and water supply and sewerage amounted to 5.5 and 5.4 per cent, respectively, of their total lending. 3/

4. On the other hand, available information indicates that technical cooperation activities in the human settlement sector generates considerable public and private sector investment. For example, every dollar of United Nations Development Programme (UNDP) technical cooperation expenditure on human settlements in 1988 generated a follow-up investment of US$ 122, the highest of all UNDP sectors of assistance. 4/

5. This is the foundation of the "enabling approach" advocated for the human settlement sector. A significant increase in external assistance will help to generate the internal resources needed to improve the living and working environments of all people to the year 2000 and beyond.

Human settlement objective

6. The overall human settlement objective is to improve the social, economic and environmental quality of human settlements and the living and working environments of all people, in particular the urban and rural poor.

7. The programme areas included in this chapter are:

(a) Providing adequate shelter for all;

(b) Improving human settlement management;

(c) Promoting effective land-resource management;

(d) Promoting the integrated provision of environmental infrastructure: water, sanitation, drainage and solid waste management;

(e) Promoting sustainable energy and transport systems in human settlements;

(f) Promoting human settlement planning and management in disaster-prone areas;

(g) Promoting sustainable construction industry activities;

(h) Promoting human resource development and capacity-building for human settlement development.

II. PROGRAMME AREAS

A. Providing adequate shelter for all

1. Basis for action

8. Shelter is fundamental to a person's physical, psychological, social and economic well-being. Despite this, it is estimated that at the present time at least 1 billion people do not have access to decent shelter and that if appropriate global and national action is not taken, this number will increase dramatically by the end of the century and beyond.

9. A major global programme to address this problem is the Global Strategy for Shelter to the Year 2000, adopted by the General Assembly in December 1988 (resolution 43/181, annex). Despite its widespread endorsement, the Strategy needs a much greater level of political and financial support to enable it to reach its goal of facilitating adequate shelter for all by the end of the century.

2. Objective

10. The objective is to achieve adequate shelter for rapidly growing populations and for the currently deprived urban and rural poor by the year°2000 through an enabling approach to shelter development and improvement.

3. Activities

11. The following activities should be undertaken:

(a) Developing countries should, by 1995, adopt national shelter strategies based on the principles and recommendations contained in the Global Strategy for Shelter to the Year 2000, including the establishment of national targets for the elimination of housing deficits;

(b) Developing countries should support the shelter efforts of the urban and rural poor by adapting existing codes and regulations, by facilitating their access to land, finance and low-cost building materials and by actively promoting the regularization and upgrading of informal settlements;

(c) Developing countries should utilize new and innovative financing mechanisms for facilitating access to shelter by the urban and rural poor, including housing finance schemes adapted to their economic circumstances;

(d) Developing countries should document and monitor the implementation of their national shelter strategies by using, inter alia, the monitoring guidelines adopted by the United Nations Commission on Human Settlements and the shelter performance indicators produced jointly by the United Nations Centre for Human Settlements (Habitat) and the World Bank;

(e) External support organizations should increase their financial and technical assistance to all developing countries in support of their national shelter strategies;

(f) Global progress reports covering national action as well as support activities of international organizations and bilateral donors should be produced and disseminated on a biennial basis.

4. Means of implementation

(a) Financing and cost evaluation

12. The total requirements for obtaining adequate shelter conditions for the urban and rural poor by the year 2000 are about US$ 75 billion annually, to be financed primarily from household, community and national resources. About US$ 10 billion per year in external financing will be needed.

13. Annual support costs for strengthening international institutions in support of the Strategy's programme of action are estimated at US$ 10 million per year, a portion of which will be needed by the United Nations Centre for Human Settlements (Habitat), to support its role as the agency designated by the General Assembly as the secretariat for the Strategy.

(b) Scientific and technological means

14. The requirements under this heading are addressed in each of the other programme areas included in the present chapter.

(c) Human resource development and capacity-building

15. Developed countries and support and funding agencies should provide specific assistance to developing countries in adopting an enabling approach to the provision of shelter for all, including training activities for government officials, professionals, communities and non-governmental organizations.

B. Improving human settlement management

1. Basis for action

16. By the turn of the century, the majority of the world's population will be living in cities. While urban settlements, particularly in developing countries, are showing many of the symptoms of the global environment and development crisis, they nevertheless generate 60 per cent of gross national product and can develop the capacity to sustain their productivity, improve the living conditions of their residents and manage natural resources in a sustainable way.

2. Objectives

17. The objectives are to improve the management of urban settlements in developing countries in order to enhance their contribution to national economic development goals, to improve living conditions of residents and to support rural development.

3. Activities

(a) Improve urban management

18. A comprehensive framework for strengthening management already exists in the United Nations Development Programme/World Bank/United Nations Centre for Human Settlements (Habitat) Urban Management Programme (UMP), a concerted global effort to assist developing countries in addressing urban management issues. Its coverage should be extended to all interested countries during the period 1993-2000. Developing countries should undertake the following activities at the national and local levels with the assistance of the Urban Management Programme and other external support agencies:

(a) Adopt and apply urban management guidelines in the areas of land management, urban environmental management, infrastructure management and municipal finance and administration;

(b) Accelerate efforts to reduce urban poverty through a number of actions, including:

(i) Generate employment for the urban poor, through the provision, improvement and maintenance of urban infrastructure and services and the support of economic activities in the informal sector, such as repairs, recycling, services and small commerce;

(ii) Provide specific assistance to the poorest of the urban poor through, inter alia, the creation of social infrastructure in order to reduce hunger and homelessness, and the provision of adequate community services;

(c) Adopt innovative city planning strategies aimed at a more equitable sharing of infrastructure and service provision between wealthier and poorer urban areas.

(b) Strengthen urban data systems

19. All developing countries should undertake during the period 1993-2000 pilot projects in selected cities for the collection, treatment and subsequent dissemination of urban data at the local, national and international levels and the establishment of city data management capabilities. 5/

(c) Encourage intermediate city development

20. Intermediate cities can relieve pressure on existing large urban agglomerations, create employment opportunities for unemployed labour in the rural areas and support rural-based economic activities.

21. For this purpose, developing countries should conduct reviews of urbanization processes and policies, identify the factors that determine the growth of urban centres and apply urban planning and management approaches specifically suited to the needs and characteristics of their growing intermediate-sized cities. They should also concentrate on activities aimed at facilitating the transition from rural to urban lifestyles and settlement patterns and at promoting the development of small-scale economic activities to support local income generation and the production of intermediate goods and services for rural hinterlands.

(d) Develop strategies for sustainable cities

22. Individual cities in developing countries, in particular those characterized by severe environmental problems, should initiate programmes aimed at addressing such problems and guiding their development along a sustainable path. International initiatives already exist in support of such efforts in the UNCHS Sustainable Cities Programme of the United Nations Centre for Human Settlements (Habitat) and the Healthy Cities Programme of the World Health Organization (WHO). Additional initiatives involving the World Bank, the regional development banks and bilateral agencies should be strengthened and coordinated. Individual cities should:

(a) Institutionalize a participatory approach to sustainable urban development, based on a continuous dialogue between the actors involved in urban development (public sector, private sector and communities);

(b) Improve the urban environment, inter-alia, through the creation and rehabilitation of open spaces, tree planting and the enhancement of other public amenities;

(c) Activate "green works" programmes designed to create employment for low-income urban residents through urban environmental improvement projects;

(d) Participate in international "sustainable city networks", to exchange experiences and mobilize national and international technical and financial support.

(e) Support linkages and cooperation between cities

23. Cities of the developing countries should reinforce cooperation among themselves and cities of the developed countries, under the aegis of non-governmental organizations active in this field, such as the International Union of Local Authorities (IULA), the International Council for Local Environmental Initiatives (ICLEI) and the World Federation of Twin Cities.

4. Means of implementation

(a) Financing and cost evaluation

24. Total annual requirements, primarily for infrastructure maintenance and operations for municipal services in developing countries are roughly estimated at US$ 100 billion, to be financed mostly by revenues. The total external financial and technical assistance required is estimated at about US$ 15 billion per year. About US$ 10 million would be needed for strengthening international institutions.

(b) Human resource development and capacity-building

25. Developing countries should, with international assistance, focus on training and developing a cadre of urban managers, technicians and administrators needed to successfully manage sustainable urban development and growth and equipped with the skills necessary to analyse and adapt innovative experiences of other cities. For this purpose, the full range of training methods - from formal education to the use of the mass media - should be utilized, as well as the "learning by doing" option.

26. Capacity-building activities carried out by developing countries, assisted as suggested above, should go beyond the training of individuals and functional groups to include institutional arrangements, administrative routines, inter-agency linkages, information flows and consultative processes.

27. In addition, the Urban Management Programme, in cooperation with multilateral and bilateral agencies, should continue to assist the developing countries in their efforts to develop a participatory structure by mobilizing the human resources of the private sector, non-governmental organizations and the poor.

C. Promoting effective land-resource management

1. Basis for action

28. In rapidly growing urban areas, access to land is rendered increasingly difficult by the conflicting demands of industry, housing, commerce, agriculture and the need for open spaces. Furthermore, the rising costs of urban land prevent the poor from gaining access to suitable land. In rural areas, unsustainable practices, such as the exploitation of marginal lands and the encroachment on forests and ecologically fragile areas by commercial interests and landless rural populations, result in environmental degradation as well as in diminishing returns for impoverished rural settlers.

2. Objective

29. The objective is to provide for the land requirements of human settlement development including, if possible, the provision of minimum plots to all people by the year 2000 and beyond. 6/

3. Activities

30. Developing countries should undertake a comprehensive national inventory of their land resources in order to establish a land information system in which land resources will be classified according to their most appropriate uses and environmentally fragile or disaster-prone areas will be identified for special protection measures.

31. Subsequently, developing countries should develop national land-resource management plans to guide land-resource development and utilization as follows:

(a) Create efficient land markets which meet collective human settlement development needs;

(b) Develop fiscal incentives and land-use control measures, including land-use planning solutions for a more rational use of limited land resources;

(c) Encourage public-private partnerships in managing land resources for human settlement purposes;

(d) Strengthen community-based land-resource protection practices in existing urban and rural settlements;

(e) Establish appropriate forms of land tenure designed to provide security of tenure for all land-users, especially the low-income urban dwellers and the rural poor;

(f) Adapt land-use patterns to the needs of low-income residents, and accelerate efforts to promote access to land by the urban and rural poor, including credit schemes for the purchase of minimum plots.

32. At the international level, the following activities should be undertaken:

(a) Promote global awareness, through public information and education, of the negative consequences of land degradation resulting from unplanned settlement development;

(b) Promote guidelines to minimize the adverse impact on people, settlements and the environment of large-scale economic activities and projects;

(c) Establish a global land-resource management support programme to coordinate the land-related activities of UNDP, the Food and Agriculture Organization of the United Nations (FAO), the World Bank, the regional development banks, other interested organizations and the UNDP/World Bank/United Nations Centre for Human Settlements (Habitat) Urban Management Programme, and to promote the transfer of applicable experience on sustainable land-management practices to and among developing countries.

4. Means of implementation

(a) Financing and cost evaluation

33. The overall cost is about US$ 3 billion annually, including about US$ 300 million from the international community. About US$ 4 million will be needed for strengthening international organizations.

(b) Scientific and technological means

34. Developing countries alone or in regional or subregional groupings should be given access to modern techniques of land-resource management, such as geographical information systems, satellite photography/imagery and other remote-sensing technologies.

(c) Human resource development and capacity-building

35. Most developing countries should be assisted by international support and funding agencies in undertaking training activities in land-resource planning and management skills in order to:

(a) Strengthen the capacity of local educational and training institutions to provide formal training of land management technicians and professionals;

(b) Initiate the organizational review of government ministries and agencies responsible for land questions, in order to devise more efficient mechanisms of land-resource management, and carry out periodic in-service refresher courses for their managers and staff in order to familiarize them with up-to-date land-resource management technologies;

(c) Provide the above agencies with modern equipment, such as computer hardware and software and survey equipment;

(d) Initiate programmes to promote an international and interregional exchange of information and experience in land management through the establishment of professional associations in land management sciences and related activities, such as workshops and seminars.

D. Promoting the integrated provision of environmental infrastructure: water, sanitation, drainage and solid waste management

1. Basis for action

36. Human settlements make heavy demands on natural resources and generate a variety of by-products that adversely affect the health and quality of life of people and cause the deterioration and depletion of the environmental resources essential for long-term sustainable development.

37. An integrated approach to the provision of adequate infrastructure in human settlements, in particular for the urban and rural poor, is an investment in sustainable development, as it will result not only in the protection of the environment but also in increased productivity, improved health and a reduced burden of investment in curative medicine and poverty alleviation.

38. Most of the activities whose management would be improved by an integrated approach, are covered in Agenda 21 as follows: section I chapter 5 (Protection and promotion of human health conditions) and section II, chapters 1 (Protecting the atmosphere), 10 (Protection of the quality and supply of freshwater resources) and 13 (Environmentally sound management of solid wastes and sewage-related issues).

2. Objective

39. The objective is to ensure the provision of adequate environmental infrastructure facilities in all settlements by the year 2025. The achievement of this objective would require that all developing countries be endowed with the necessary technical, financial and human resource capacity by the year 2000.

3. Activities

40. A settlement infrastructure and environment programme (SIEP) should be launched following the Conference, with the participation of bilateral donors and multilateral agencies, including the United Nations Centre on Human Settlements (Habitat), UNDP, WHO, the United Nations Children's Fund (UNICEF), the World Bank and the regional development banks. It should ensure the coordination of the activities of all organizations and bodies engaged in providing environmental infrastructure for urban and rural settlements and should include among its activities monitoring, applied research, capacity-building, transfer of appropriate technology and technical cooperation.

41. SIEP should assist developing countries at the national and local levels in adopting an integrated approach to the provision of water supply, energy, sanitation, drainage and solid waste management and ensure that this approach is applied in particular to environmental infrastructure improvement in informal settlements based on regulations and standards that take into account the living conditions and resources of the communities to be served.

42. By the end of 1995, pilot programmes should be established by SIEP in a number of developing countries. Thereafter, it should be in a position to provide advisory services to all interested developing countries for the implementation of environmental infrastructure programmes.

4. Means of implementation

(a) Financing and cost evaluation

43. Financial requirements for major development programmes are estimated in other chapters, especially those dealing with health, energy, freshwater resources, sanitation and solid wastes. Annual technical assistance requirements for SIEP are estimated at about US$ 50 million; US$ 3 million will be needed to strengthen international institutions.

(b) Scientific and technological means

44. Scientific and technological means are already described in detail under the programmes whose activities SIEP is to coordinate. In particular, SIEP should:

(a) Accelerate research in the area of integrated policies of environmental infrastructure programmes and projects based on cost-benefit analysis and overall environmental impact;

(b) Promote methods of assessing "effective demand" as a criterion for technology choice.

(c) Human resource development and capacity-building

45. With the assistance of support and funding agencies, developing countries should undertake training aimed at:

(a) Raising awareness of the means, approaches and benefits of the provision of environmental infrastructure facilities, especially among low-income groups;

(b) Developing a cadre of professionals with adequate skills in integrated infrastructural service planning and maintenance of resource efficient, environmentally sound and socially acceptable systems;

(c) Strengthening the institutional capacity of local authorities in the integrated provision of adequate infrastructure services in partnership with local communities and the private sector;

(d) Adopting appropriate legal and regulatory instruments, including cross-subsidy arrangements, to extend the benefits of adequate and affordable environmental infrastructure to unserved population groups, especially the poor.

E. Promoting sustainable energy and transport systems in human settlements

1. Basis for action

46. Most of the commercial and non-commercial energy produced today is used in, and for, human settlements and a substantial percentage of it is used by the household sector. Developing countries are faced by the need to increase their energy production to accelerate development and raise the living standards of their populations, while at the same time reducing energy production costs and energy-related pollution.

47. Transport accounts for about 30 per cent of commercial energy consumption and for about 60 per cent of total global consumption of liquid petroleum. In developing countries, rapid motorization and the lack of resources for investment in urban transport planning, traffic management and infrastructure, are creating increasing problems in terms of health, noise, congestion and loss of productivity. All of these problems have a severe impact on low-income urban populations.

2. Objectives

48. The objectives are to extend the provision of energy for human settlements and to reduce negative impacts of energy production and use on human health and on the environment.

3. Activities

49. The principal activities relevant to this programme area are included in Agenda 21 as follows: section II, chapter 1 (Protecting the atmosphere), programme area A (Promoting sustainable energy development) and programme area B (Promoting transport systems which are specifically safe and environmentally sound).

50. In the area of urban transport, developing countries should adopt a comprehensive approach to urban transport planning and management. For this they should:

(a) Integrate land-use and transportation planning to encourage development patterns which reduce transport demand;

(b) Adopt urban transport programmes favouring high-occupancy public transport;

(c) Encourage non-motorized modes of transport by providing safe cycleways and footways in urban centres;

(d) Devote particular attention to effective traffic management, to efficient operation of public transport and to maintenance of transport infrastructure.

4. Means of implementation

(a) Financing and cost evaluation

51. The financing for this programme area is included in the estimate for part II, chapter 1 of Agenda 21 (Protecting the atmosphere).

(b) Human resource development and capacity-building

52. In order to enhance the skills of energy service and transport professionals and institutions, developing countries should:

(a) Provide on-the-job training of government officials, planners and managers involved in the energy service and transport section;

(b) Raise public awareness about the environmental impacts of transport and travel behaviour through mass media campaigns and support for non-governmental and community initiatives promoting the use of non-motorized transport, shared driving and improved traffic safety measures;

(c) Strengthen regional, national and private sector institutions that provide education and training on energy service and urban transport planning and management.

F. Promoting human settlement planning and management in disaster-prone areas

1. Basis for action

53. Natural disasters cause loss of life, disruption of economic activities and environmental damage, such as loss of fertile agricultural land and contamination of water resources, and can lead to major resettlement of populations. Over the past two decades they are estimated to have caused some 3 million deaths and affected 800 million people. Global economic losses have been estimated by the Office of the United Nations Disaster Relief Coordinator to be in the range of US$ 30-50 billion per year. 7/

54. The General Assembly, in resolution 44/236, proclaimed the 1990s as the International Decade for Natural Disaster Reduction. The goals of the Decade 8/ bear relevance to the objectives of the present programme area.

2. Objective

55. The objective is to enable all countries, in particular those that are disaster-prone, to mitigate the negative impact of natural and man-made disasters on human settlements.

3. Activities

56. Three distinct areas of activity are foreseen under this programme area, namely the development of a "culture of safety", pre-disaster planning and post-disaster reconstruction.

(a) Develop a culture of safety

57. To promote a "culture of safety" in all countries, especially those that are disaster-prone, the following activities should be carried out:

(a) Complete national and local studies on the nature and occurrence of natural disasters, their impact on people and economic activities, the effects of inadequate construction in hazard-prone areas, and the social and economic advantages of adequate pre-disaster planning;

(b) Implement nation-wide and local awareness campaigns through all available media, translating the above knowledge into information easily comprehensible to the general public and to the populations directly exposed to hazards;

(c) Develop global, regional, national and local early warning systems to alert populations to impending disasters.

(b) Develop pre-disaster planning

58. Pre-disaster planning should form an integral part of human settlement planning in all countries. The following should be included:

(a) Complete multi-hazard research into risk and vulnerability of human settlements and settlement infrastructure, including water and sewerage, communication and transportation networks, as one type of risk reduction may increase vulnerability to another (e.g., an earthquake resistant house made of wood will be more vulnerable to wind storms);

(b) Develop methodologies for determining risk and vulnerability within specific human settlements and incorporate risk and vulnerability reduction into the human settlement planning and management process;

(c) Prepare guidelines on location, design and operation of potentially hazardous industries and activities;

(d) Develop tools (legal, economic etc.) to encourage disaster-sensitive development, including means of ensuring that limitations on development options are not punitive to owners, or incorporate alternative means of compensation;

(e) Further develop and disseminate information on disaster-resistant building materials and construction technologies for buildings and public works in general;

(f) Develop training programmes for contractors and builders on disaster-resistant construction methods (particularly small enterprises, which build the great majority of housing and other small buildings in the developing countries).

(c) Initiate post-disaster reconstruction and rehabilitation planning

59. The international community as a major partner in post-reconstruction and rehabilitation should ensure that the countries involved derive the greatest benefits from the funds allocated by undertaking the following activities:

(a) Carry out research on past experiences on the social and economic aspects of post-disaster reconstruction and adopt effective strategies and guidelines for post-disaster reconstruction with particular focus on development focused strategies in the allocation of scarce reconstruction resources;

(b) Prepare and disseminate international guidelines for adaptation to national and local needs.

4. Means of implementation

(a) Financing and cost evaluation

60. External assistance will continue to be required for post-disaster investments, which are roughly estimated to run at about US$ 600 million annually. Technical assistance connected with this programme area could cost about US$ 50 million annually; US$ 2 million is suggested for strengthening international organizations.

(b) Scientific and technological means

61. Scientists and engineers specializing in this field in both developing and developed countries should collaborate with urban and regional planners in order to provide the basic knowledge and means to mitigate losses due to disasters.

(c) Human resource development and capacity-building

62. Developing countries should conduct training programmes on disaster-resistant construction methods for contractors and builders, who

build the majority of housing in the developing countries. This should focus on the small business enterprise.

63. Training programmes should be extended to government officials and planners and community and non-governmental organizations to cover all aspects of disaster mitigation, such as early warning techniques, pre-disaster planning and construction, post-disaster construction and rehabilitation.

G. Promoting sustainable construction industry activities

1. Basis for action

64. The activities of the construction sector are vital to the achievement of the national socio-economic development goals of providing shelter, infrastructure and employment. However, they are also a major source of environmental damage through depletion of the natural-resource base, degradation of fragile eco-zones, chemical pollution and the use of building materials harmful to human health.

2. Objectives

65. The objectives are first, to adopt policies and technologies to enable the construction sector to meet human settlement development goals while avoiding harmful side-effects on human health and on the biosphere and, second, to enhance the employment-generation capacity of the construction sector.

3. Activities

66. Developing countries should:

(a) Formulate programmes to enhance the utilization of local materials by the construction sector by expanding technical support and incentive schemes for, increasing the capabilities and economic viability of small-scale and informal operatives who make use of indigenous materials and methods and traditional construction techniques;

(b) Adopt standards and other regulatory measures which promote the increased use of energy-efficient technologies and sustainable utilization of natural resources;

(c) Formulate appropriate land-use policies and introduce planning regulations specially aimed at protection of eco-sensitive zones against physical disruption by construction and construction-related activities;

(d) Promote the use of labour-intensive construction and maintenance technologies which generate employment in the construction sector for the underemployed labour force found in most large cities;

(e) Adopt measures to increase the affordability of building materials on the part of the urban and rural poor, through, inter alia, credit schemes and bulk procurement of building materials for sale to small-scale builders and communities.

67. Industrialized countries should:

(a) Promote the development and dissemination of databases on the adverse environmental effects of building materials and introduce legislation and financial incentives to promote recycling of energy-intensive materials in the construction industry and conservation of waste energy in building-materials production methods;

(b) Introduce regulatory measures, e.g., certification and eco-labelling schemes for the use of such non-renewable natural resources as tropical hardwoods in construction, and use economic instruments, such as product charges, to discourage the use and consumption of construction materials and products which create pollution during their life-cycle;

(c) Transfer to developing countries appropriate technologies for resource management in construction, particularly for non-renewable resources.

4. Means of implementation

(a) Financing and cost evaluation

68. It is roughly estimated that the construction activities of developing countries amount to about US$ 400 billion annually and will increase by about US$ 20 billion annually. The stream of new investments for these levels of activity and to bring in clean technologies is estimated at US$ 40 billion annually, primarily from private sources. If 10 per cent of the new investments come from the international community, this would amount to US$ 4 billion annually. About US$ 3 million would be needed to strengthen international organizations.

(b) Human resource development and capacity-building

69. Developing countries should be assisted by international support and funding agencies in upgrading the technical and managerial capacities of the small entrepreneur and the vocational skills of operatives and supervisors in the building materials industry, using both formal and informal training methods. These countries should also be assisted in developing programmes to encourage the use of non-waste and clean technologies through appropriate transfer of technology.

H. Promoting human resource development and capacity-building for human settlement development

1. Basis for action

70. Developing countries, in addition to shortcomings in the availability of specialized expertise in the areas of housing, settlement management, land management, infrastructure, construction, energy, transport, and pre-disaster planning and reconstruction, face three cross-sectoral human resource development and capacity-building shortfalls. First is the absence of an enabling policy environment capable of integrating the resources and activities of the public sector, the private sector and the community, or social sector; second is the weakness of specialized training institutions; and third is the insufficient capacity for technical training and assistance for low-income communities, both urban and rural.

2. Objective

71. The objective is to improve human resource development and capacity-building in developing countries by enhancing the personal and institutional capacity of all actors involved in human settlement development.

3. Activities

72. Specific human resource development and capacity-building activities have been built into each of the programme areas of this chapter. More generally, however, additional steps should be taken to reinforce those activities. In order to do so, developing countries should take the following action:

(a) Create an enabling policy environment supportive of the partnership between the public, private and community sectors;

(b) Re-orient the curricula and programmes of national institutions providing training for technicians, professionals and administrators, and strengthen their capacity to address priority training needs;

(c) Provide direct assistance for human settlement development at the community level.

73. Both international organizations and non-governmental organizations should support the above activities by, inter alia, strengthening subregional training institutions, providing updated training materials and disseminating the results of successful human resource and capacity-building activities, programmes and projects.

4. Means of implementation

(a) Financing and cost evaluation

74. International technical assistance to support national programmes is estimated at about US$ 60 million annually; US$ 5 million will be needed for strengthening international institutions.

(b) Scientific and technological means

75. Formal training and non-formal kinds of human resource development and capacity-building programmes should be combined, and use should be made of user-oriented training methods, up-to-date training materials and modern audio-visual communication systems.

Notes

1/ No aggregate figures are available on internal expenditure or official development assistance on human settlements. However, data available in the World Development Report, 1991, for 16 low-income developing countries show that the percentage of central government expenditure on housing, amenities, and social security and welfare for 1989 averaged 5.6 per cent, with a high of 15.1 per cent in the case of Sri Lanka, which has embarked on a vigorous housing programme. In OECD industrialized countries, during the same year, the percentage of central government expenditure on housing, amenities and social security and welfare ranged from a minimum of 29.3 per cent to a maximum of 49.4 per cent, with an average of 39 per cent (World Bank, World Development Report, 1991, World Development Indicators, table 11 (Washington, D.C., 1991), forthcoming.

2/ See the report of the Director-General for Development and International Economic Cooperation, containing preliminary statistical data on operational activities of the United Nations system for 1988 (A/44/324-E/1989/106/Add.4, annex).

3/ World Bank Annual Report, 1991 (Washington, D.C. 1991).

4/ UNDP, "Reported investment commitments related to UNDP-assisted projects, 1988", table 1, "Sectoral distribution of investment commitment in 1988-1989".

5/ A pilot programme of this type, the City Data Programme (CDP), is already in operation in the United Nations Centre on Human Settlements (Habitat) aimed at the production and dissemination to participating cities of micro-computer application software designed to store, process and retrieve city data for local, national and international exchange and dissemination.

6/ This calls for integrated land-resource management policies, which are also addressed in section II, chapter 2 of Agenda 21 (Integrated approach to planning and management of land resources).

Notes (continued)

7/ Estimates of the Office of the United Nations Disaster Relief Coordinator.

8/ The goals of the International Decade for Natural Disaster Reduction, set out in the annex to General Assembly resolution 44/236 are as follows:

(a) To improve the capacity of each country to mitigate the effects of natural disasters expeditiously and effectively, paying special attention to assisting developing countries in the assessment of disaster damage potential and in the establishment of early-warning systems and disaster-resistant structures when and where needed;

(b) To devise appropriate guidelines and strategies for applying existing scientific and technical knowledge, taking into account the cultural and economic diversity among nations;

(c) To foster scientific and engineering endeavours aimed at closing critical gaps in knowledge in order to reduce loss of life and property;

(d) To disseminate existing and new technical information related to measures for the assessment, prediction and mitigation of natural disasters;

(e) To devlop measures for the assessment, prediction, prevention and mitigation of natural disasters through programmes of technical assistance and technology transfer, demonstration projects, and education and training, tailored to specific disasters and locations, and to evaluate the effectiveness of those programmes.